

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2H/SH/2BL73/8	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/NL2004/000860	International filing date (day/month/year) 10.12.2004	Priority date (day/month/year) 12.12.2003	
International Patent Classification (IPC) or national classification and IPC H01Q23/00, H01Q9/04			
Applicant Stichting Noble House et al.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 12.10.2005		Date of completion of this report 09.11.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Moumen, A Telephone No. +31 70 340-4411	



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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-5 as originally filed

Claims, Numbers

1-9 received on 12.10.2005 with letter of 11.10.2005

Drawings, Sheets

1/2, 2/2 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-9
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-9
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following documents:

- D1: US-A-5 903 239 (TAKAHASHI KAZUAKI ET AL) 11 May 1999 (1999-05-11)
- D2: EP-A-0 978 729 (HITACHI, LTD) 9 February 2000 (2000-02-09)
- D3: US-B1-6 320 543 (MARUHASHI KENICHI ET AL) 20 November 2001 (2001-11-20)
- D4: SEKI T ET AL: "A three-dimensional active antenna for a high-speed wireless communication application" MICROWAVE SYMPOSIUM DIGEST, 1997., IEEE MTT-S INTERNATIONAL DENVER, CO, USA 8-13 JUNE 1997, NEW YORK, NY, USA, IEEE, US, 8 June 1997 (1997-06-08), pages 975-978, XP010228545 ISBN: 0-7803-3814-6
- D5: US-A-5 483 678 (ABE ET AL) 9 January 1996 (1996-01-09)

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):

a device (Fig. 4) comprising a patch antenna (14) and coupling means for connecting the antenna to an electronic component (52), wherein the patch antenna (14) is arranged on one side of an antenna plate (13a), the electronic component (52) can be mounted on the other side of the antenna plate (13a) and that the coupling means comprise a metal passage (15) through the antenna plate (13a), wherein the length of the passage (15), as seen perpendicularly of the antenna plate, is smaller than a quarter-wavelength of a signal to be processed by the antenna (implicit from fig. 4, substrate height).

The subject-matter of claim 1 therefore differs from this known device in that:

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said passage transposes into a bond pad against the antenna plate on the other side, and the coupling means comprises a metal bond wire between the electronic component and the bond pad.

The solution proposed in claim 1 of the present application consists merely of using the wire bonding method instead of the flip-chip bonding method for electrically connecting the electronic component to the via-hole.

However, this is considered to be merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed, see for example column 6, lines 35-45 in D2.

2. The dependent claims 2-9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirement of the PCT in respect of inventive step as the relevant subject-matter is either disclosed in the cited prior art (D1-D5) or falls within the knowledge and ability of the skilled person.